

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 2 of 8

Docket No.: S-12

CLAIMS

The claims and status in the Application are as follows:

CLAIMS:

1. (WITHDRAWN) A method for treating an intervertebral disc comprising:
advancing an access device into the disc by separating layers of a fibrous outer portion of the disc to create a passageway into the disc with the access device;
advancing a treatment device into the disc using the access device; and
activating the treatment device to treat the disc;
wherein upon removal of the accessing device the separated layers of the fibrous outer portion substantially relax to remove the passageway.
2. (WITHDRAWN) The method of claim 1, wherein advancing an access device into the disc includes cutting a portion of the layer of the fibrous outer portion of the disc.
3. (WITHDRAWN) The method of claim 1, wherein advancing the access device comprises inserting a tapered introducer device into the fibrous outer portion of the disc.
4. (WITHDRAWN) The method of claim 1, wherein advancing the access device comprises inserting an introducer needle into the fibrous outer portion of the disc.
5. (WITHDRAWN) The method of claim 1, wherein the treatment device includes at least one active electrode and a return electrode, wherein activating the treatment device comprises applying a high frequency voltage between the active and return electrodes.
6. (WITHDRAWN) The method of claim 5, further comprising providing a conductive medium between the active and return electrodes to form a current path therebetween.

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 3 of 8

Docket No.: S-12

7. (WITHDRAWN) The method of claim 5, wherein advancing the treatment device comprises advancing the treatment device into a nucleus pulposus of the disc.
8. (WITHDRAWN) The method of claim 5, wherein activating the treatment device comprises ablating tissue within the disc.
9. (WITHDRAWN) The method of claim 5, wherein activating the treatment device comprises coagulating tissue within the disc.
10. (WITHDRAWN) The method of claim 1, further comprising expanding a portion of the treatment device prior to activating the treatment device.
11. (WITHDRAWN) The method of claim 1, further comprising advancing the treatment device until a portion of the treatment device contacts a fibrous inner portion of the disc.
12. (WITHDRAWN) The method of claim 11, wherein advancing the treatment device comprises using the fibrous inner portion of the disc to stop advancement of the treatment device.
13. (WITHDRAWN) The method of claim 11, further comprising applying heat to the fibrous inner portion of the disc to denervate a portion of the disc containing nerve endings.
14. (WITHDRAWN) The method of claim 1, further comprising inserting a scope adjacent to the disc prior to advancing the access device.
15. (WITHDRAWN) The method of claim 1, wherein advancing the treatment device comprises advancing the treatment device along a curved path into the disc.
16. (WITHDRAWN) The method of claim 15, wherein advancing the treatment device along a curved path comprises using a curved introducer to advance the treatment device.

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 4 of 8

Docket No.: S-12

17. (WITHDRAWN) The method of claim 1, further comprising performing non-invasive imaging prior to or during activating the treatment device.
18. (WITHDRAWN) The method of claim 17, wherein the non-invasive imaging comprises an imaging selected from the group consisting of fluoroscopy, x-ray, magnetic resonance imaging, and computed tomography.
19. (WITHDRAWN) The method of claim 1, further comprising applying energy to the fibrous outer portion of the disc.
20. (WITHDRAWN) The method of claim 19, where applying energy to the fibrous outer portion of the disc comprises applying energy adjacent to a site wherein advancing the access device into the disc occurs.
21. (WITHDRAWN) The method of claim 20, where applying energy comprises applying energy prior to removing the access device.
22. (WITHDRAWN) The method of claim 20, where applying energy comprises applying energy subsequent to removing the access device.
23. (WITHDRAWN) The method of claim 20, where applying energy comprises applying energy during removing the access device.
24. (WITHDRAWN) The method of claim 1, where the treatment device comprises a stop-portion adapted to prevent advancement of the treatment device into the disc.
25. (WITHDRAWN) The method of claim 24, wherein the stop-portion of the treatment device is located on a distal portion of the device.
26. (WITHDRAWN) The method of claim 24, wherein the stop-portion of the treatment device is adapted to prevent advancement of the treatment device into an inner wall of an annulus of the disc.

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 5 of 8

Docket No.: S-12

27. (ORIGINAL) An electrosurgical device for use with a high-frequency power supply, the device comprising:
- a shaft having a proximal portion and a distal portion;
 - a return electrode at the distal portion of the shaft and having a return electrode surface area, the return electrode distally terminating in a tip portion;
 - at least one active electrode at the distal portion of the shaft, and having an active electrode surface area, the active electrode further comprising an arm portion being radially spaced from the return electrode, wherein the tip portion of the return electrode is distally spaced from the arm portion of the active electrode; and
 - a connector located at the proximal portion of the shaft and adapted to couple the return electrode and each active electrode to respective poles of the high-frequency power supply.
28. (ORIGINAL) The electrosurgical device of claim 27, wherein the return electrode surface area is greater than the active electrode surface area.
29. (ORIGINAL) The electrosurgical device of claim 27, wherein at least part of the tip portion comprises a shape selected from a group consisting of a sphere, a semi-sphere, oblate sphere, and prolate sphere.
30. (ORIGINAL) The electrosurgical device of claim 27, wherein a portion of the return electrode comprises at least one segment having a raised surface, whereby the raised surfaces increase the return electrode surface area.
31. (ORIGINAL) The electrosurgical device of claim 30, wherein the at least one segment having the raised surface comprises a coil adjacent to the tip portion.
32. (ORIGINAL) The electrosurgical device of claim 27, wherein the at least one active electrode comprises at least a first and a second active electrode.
33. (ORIGINAL) The electrosurgical device of claim 32, wherein the first and second active electrodes are spaced 180 degrees on the device.

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 6 of 8

Docket No.: S-12

34. (ORIGINAL) The electrosurgical device of claim 32, wherein a span between the arm portion of the first active electrode and the arm portion of the second active electrode is at least 3 mm.

35. (ORIGINAL) The electrosurgical device of claim 27, wherein at least the arm portion of the active electrode is adapted to deform such that the device may assume a reduced profile.

36. (ORIGINAL) The electrosurgical device of claim 35, wherein at least the arm portion of the active electrode is elastically deformable.

37. (ORIGINAL) The electrosurgical device of claim 35, wherein at least a portion of the active electrode comprises a shape memory alloy such that the arm portion of the active electrode may return from the reduced profile upon application heat.

38. (ORIGINAL) The electrosurgical device of claim 35, further comprising an electrode support physically connecting the return electrode to at least one of the active electrodes.

39. (ORIGINAL) The electrosurgical device of claim 38, wherein the return electrode and the active electrode are moveable relative to each other.

40. (ORIGINAL) The electrosurgical device of claim 27, further comprising an outer covering slidably moveable over the shaft and active electrode, and having an internal opening having a dimension smaller than a maximum radial distance from the active electrode arm portion to the return electrode.

41. (ORIGINAL) The electrosurgical device of claim 27, wherein at least the active electrode arm portion comprises at least one section of reduced surface area adapted to produce a high current density.

42. (ORIGINAL) The electrosurgical device of claim 27, wherein at least the active electrode arm portion comprises a cross-sectional shape selected from the group

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 7 of 8

Docket No.: S-12

consisting of a d-shape, a square shape, a rectangular shape, a triangular shape, a circular shape, and an oval shape.

43. (ORIGINAL) The electrosurgical device of claim 27, further comprising a hub at a proximal end of the shaft, wherein the connector comprises a cable and is integral to the hub.

44. (ORIGINAL) The electrosurgical device of claim 27, wherein the hub comprises a handle.

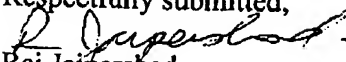
45. (ORIGINAL) An electrosurgical system for treating tissue with a high-frequency power supply, the system comprising:
a source of electrically conductive medium;
an electro surgical device for use with the high-frequency power supply, the device comprising,
a shaft having a proximal portion and a distal portion;
a return electrode at the distal portion of the shaft and having a return electrode surface area, the return electrode having a tip portion;
at least one active electrode at the distal portion of the shaft, and having an active electrode surface area, the active electrode further comprising an arm portion being radially spaced from the return electrode, wherein the tip portion of the return electrode is distally spaced from the arm portion of the active electrode; and
a connector located at the proximal portion of the shaft and adapted to couple the return electrode and each active electrode to respective poles of the high-frequency power supply; and
wherein the source of electrically conductive medium provides an electrically conductive medium which completes a circuit between the return electrode and the active electrode.

46. (WITHDRAWN) The method of claim 1, wherein the passageway is completely removed.

David C. Hovda et al
Application No.: 10/656,597
Response to Office Action of Jan 12/06
Page 8 of 8

Docket No.: S-12

Respectfully submitted,



Raj Jaipershad
Attorney for Applicant
Reg. No. 44,168

ArthroCare Corporation
680 Vaqueros Ave.
Sunnyvale, CA 94085-3523
(408) 735-6486